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ABSTRACT

This paper deals with the question of what should be the focus of measurement in a competency-based teacher education program. Two modes for measuring teaching competency, product measurement and process measurement, are contrasted and discussed. Product measurement focuses on changes in pupil behavior brought about by the teacher while process measurement focuses on the teaching act itself. Since there is little research evidence that causally links teacher behavior with pupil behavior, the simultaneous use of both product measurement and process measurement is advised. (Author)

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Abstract

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*WHAT FOCUS IN THE MEASUREMENT OF TEACHING COMPETENCY?

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My purpose in this symposium on competency-based teacher education (CBTE) is to describe a broad class of problems that we encounter when we attempt to measure teaching competency. The class of problems to which I am referring is defined by the question, "What should be the focus of measurement?" This, of course, must be the very first question we have to come to grips with in the measurement of teaching competency. To discuss specific measurement procedures before grappling with this question would be premature; therefore, my discussion will be kept at a much more general level.

Most of us agree that teachers ought to be trained to do those things which have the highest probabilities of bringing about desirable behavioral changes on the part of their students. Ultimately, the validity of a CBTE program or any other form of teacher education, for that matter, must be demonstrated by its production of teachers whose actions measurably affect their students.

Our lives in teacher education would be infinitely more simple if the performance criteria of our programs were derived from a solid empirical base in the research literature that linked teacher actions with student learning. However, extensive reviews of the literature by Rosenshine (1970) and Rosenshine and Furst (1971) resulted in the conclusion that much more evidence is needed regarding the relationship between teacher behavior and pupil outcome measures. Making specific reference to the model programs funded by USOE, Rosenshine and Furst (1971) dismally concluded:

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> Until this research is done, we can have little confidence that the models are providing any more hope that either teacher training or student education will be greatly improved in the forseeable future (p. 66).

In the absence of clearly established causal links between teacher behavior and student learning, some of us have begun to shift the focus of measurement of teaching competency away from the teacher and, instead, are placing it on the student. Popham (1971) and his colleagues at U.C.L.A. have been involved in the construction of "performance tests of teaching proficiency." These tests are administered, not to teachers but to their pupils, to determine the extent to which their teacher was successful in bringing about prespecified instructional objectives. I like to refer to this approach to measuring teaching competency as product measurement since student behavior change represents the product of teaching.

Product measurement represents a refreshing, somewhat threatening, approach to the measurement of teaching competency. I welcome it, but I also believe that it has several limitations and should not be the only mode for measuring teaching competency. The primary advantage of product measurement, focus on the pupil, is likewise its primary disadvantage, lack of focus on the teacher and the teaching process. As teacher educators, we cannot afford to ignore the teaching process no matter how appealing the logic of product measurement at first appears.

CBTE programs and their highly specific teacher criteria demand more varied approaches to measuring teaching competency. Most of these can be placed under the general heading of process measurement since teacher behavior change represents the process under examination.

By increasing the accuracy of our measurement of the teaching process, we can do much to promote the cause of process-product research, the quest for causal links between teacher behavior and student behavior.

One of the most difficult problems we have in measuring teaching competency is to strike a balance between product and process. Highland (1955), in a document outside the field of teacher education, has suggested a number of useful guidelines for reaching this balance. Due to the relative obscurity of this source, they are reproduced here for the audience's convenience.

Weighting Performance and Product

The following conditions will make it more likely that the test constructor will wish to score performance in terms of the process--that is, in terms of how something is done.

1. The steps in a procedure can be specified and have been explicitly taught.

2. The extent to which an individual deviates from accepted procedure can be accurately and objectively measured.

3. Much or all of the evidence needed to evaluate performance is to be found in the way that performance is carried out and/or little or none of the evidence needed to evaluate performance is present at the end of performance.

4. An ample number of persons are available to observe, record, and score the procedures used during performance.

The following conditions will make it more likely that the test constructor will wish to score performance in terms of products evident after performance has been completed, and available even though the performance itself has not been observed.

1. The product of performance can be measured accurately and objectively.

2. Much or all of the evidence needed to evaluate performance is to be found in the product available at the end of performance and/or little or none of the evidence needed to evaluate performance is to be found in the way that performance is carried out.

3. The proper sequence of steps to be followed in attaining the goal is indeterminate, or has not been taught during training or when, though everyone knows the steps, they are hard to perform and skill is ascertainable only in the product.

4. The evaluation of the procedures used during performance is not practicable because persons are not available to observe, record, and score these procedures.

References

Highland, R. W. A guide for use in performance testing in Air Force technical schools. Lowry Air Force Base, Colo.: Armament Systems Personnel Research Laboratory, 1955. (ASPRL - TM - 55 - 1).

Popham, W. J. Performance tests of teaching proficiency: Rationale, development and validation. American Educational Research Journal, 1971, 8, 105-117.

Rosenshine, B. The stability of teacher effects upon student achievement. Review of Educational Research, 1970, 40, 647-662.

Rosenshine, B. & Furst N. Research on teacher performance criteria. In B. O. Smith (Ed.) Research in Teacher Education: A Symposium. Washington: AERA, 1971.